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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,315	06/28/2004	Shichao Ge	4582-008	9868

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LOWE HAUPTMAN BERNER, LLP  
1700 DIAGONAL ROAD  
SUITE 300  
ALEXANDRIA, VA 22314

EXAMINER
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SEMBER, THOMAS M

ART UNIT	PAPER NUMBER.
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2885

MAIL DATE	DELIVERY MODE
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07/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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**Office Action Summary**

Application No.

10/500,315

Applicant(s)

GE, SHICHAO

Examiner

Thomas M. Sember

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4, 6, 7 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by AAPA (Applicant's admitted prior art). AAPA (Applicant's admitted prior art) (particularly figure 1) discloses at least one LED chip (101, Fig. 1) directly mounted on a metal base (103) of high heat conductivity. The LED chip 101 is electrically connected to an applied power supply/driving circuit through the CB 106 via outgoing LED leads 104. A base top surface 103 acts as a light reflective surface and is provided around the base. As broadly claimed, the circuit board (166) is provided on (as broadly claimed, the phrase "provided on" is functional language and given very little patentable weight. Furthermore the phrase "provided on" fails to directly connect to or even structurally related to the base in anyway

- Wherein the LED has a transparent medium layer/bulb housing/optical glue and lens disposed thereon (108/109);
- A light reflector at front of the LED chip (102);
- Wherein an angle between the reflective surface and an LED axis is from 10 to 70 degrees (Fig. 1 illustrates a prior art device having a reflector with an angle relative to

an LED axis that is substantially similar to Applicant's claimed invention illustrated in Fig. 2, i.e. approximately 45 degrees); and •Wherein the heat sink has heat-dispersing flanges on it (113, Fig. 1).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (AAPA) in view of WORGAN (US 2002/0071275). While AAPA substantially discloses the claimed invention including an LED chip with base and CB mounted on a heat sink with flanges (as provided above), the AAPA does not disclose use of a screw to connect the elements. However, utilizing screws to attach elements together is notoriously known in the art and WORGAN teaches the use of fixing screws (18) to secure the LED and PCB to the chassis/heat sink (Paragraph 34; Fig. 3). It would have been obvious to one of ordinary skill in the art at the time of invention to modify AAPA and use the screws as taught by WORGAN in order to secure elements together.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA. While AAPA substantially discloses the claimed invention including an LED chip (as shown above), undisclosed is a plurality of LED chips of the same or different color.

However, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Given that it is well known that an increase in the number of light sources will increase overall light output, it would have been obvious to one having ordinary skill in the art to duplicate the existing light source/LED of AAPA in order to provide a plurality of LEDs of the same color for increase light output.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and WORGAN ET AL. (US 6,568,833) as applied in claims 2, 9 and 13 in view of BEGEMANN (US 6,220,722). AAPA and WORGMAN as applied in claims 2, 9 and 13 substantially disclose the claimed invention, but do not disclose a screw lamp head electrical connection means. However, BEGEMANN teaches an LED lamp with threaded base (Fig. 2) for the purpose of electrical connection (fig. 2). It would have been obvious to one of ordinary skill in the art at the time of invention to modify AAPA and WORGAN and use the threaded base as taught by BEGEMANN in order to provide a common and readily available electrical connection.

Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and WORGAN ET AL. (US 6,568,833) in view of LOWERY (US 6,504,301). AAPA and WORGMAN substantially disclose the claimed invention, but do not disclose an LED having a light-converting member between the optical glue and lens or coated on an tuner lens/bulb housing. However, LOWERY teaches an LED device utilizing a light-converting fluorescent member (52) for the purpose of converting light (Column 6, Lines 6-32). Further, LOWERY teaches positioning the material between the lens (54)

LED (44, Fig. 2). Given the teachings of AAPA in addition to LOWERY, it would have been obvious to one of ordinary skill in the art at the time of invention to modify AAPA and WORGAN and use the material as taught by LOWERY and situated within AAPA in order to convert light as desired.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and WORGAN ET AL. (US 6,568,833). AAPA and WORGMAN substantially disclose the claimed invention including a lamp housing (as provided above), but do not disclose a housing made of glass or plastic. While it is likely that the AAPA transparent housing is made of either glass or plastic given that such materials are notoriously known in the art, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. In re Leshin, 125 USPQ 416. Moreover, Applicant seems to arbitrarily list different materials since Applicant has not disclosed that the use of glass or plastic solves any stated problems or is for any particular purpose and it appears that the invention would perform equally well with the housing of AAPA.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and WORGAN ET AL. (US 6,568,833) in view of SAGAL ET AL. (US 6,827,470). AAPA and WORGMAN substantially disclose the claimed invention including a heat sink having heat-dispersing flanges (as provided above), but do not disclose a plurality of flanges in a gyroidal configuration or where the inner surface of the heat sink is a parabolic, light reflection surface. However, SAGAL teaches a lamp with heat-dispersing gyroidal flanges (24, Fig. 1) on a heat sink having an inner parabolic surface for light

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reflection and dispersing heat (Column 4, Lines 36-55). It would have been obvious to one of ordinary skill in the art at the time of invention to modify AAPA and WORGAN and use the flanges and reflector as taught by SAGAL in order to dissipate heat and reflect light. 12. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and WORGAN ET AL. (US 6,568,833) in view of MOORE (US 3,936,686). While AAPA and WORGAN substantially disclose the claimed invention, they do not disclose a parabolic, reflective heat sink. However, MOORE teaches a parabolic reflective heat sink for dissipating heat and reflecting light (Column 6, Lines 3-12). It would have been obvious to one of ordinary skill in the art at the time of invention to modify AAPA and WORGAN and use the heat sink as taught by MOORE in order to obtain the benefits thereof, i.e. reflecting light while dissipating heat.

### ***Response to Arguments***

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. The applicant argues that the "The AAPA does not disclose, teach or suggest the LED and LED lamp as described above. Specifically, the AAPA only discloses a base mounted on a circuit board and fails to disclose, teach, or suggest the Applicant's structure wherein the circuit board is "provided on the base," as recited in claim 1. Accordingly, because the AAPA does not disclose, teach or suggest each and every limitation recited in claim 1, the rejection of claim 1 under 35 U.S.C. §102(b) is improper. Applicant respectfully submits, therefore, that independent claim 1 is patentable over the AAPA." The examiner disagrees. The phrase "provided

on” is merely intended use language and given very limited patentable weight. The phrase “provide on” is extremely broad and in no way positively recites or structurally limits that the circuit board is structurally connected to base. Therefore, as broadly claimed, the circuit board 106 of AAPA is “provided” (is made available) “on” (associated) the AAPA’s base 103.

Furthermore, applicant argues that Worgan fails to disclose, teach or suggest, “at least one LED chip being mounted directly on a base of high heat conductivity, as recited in independent claim 1.” However, the Worgan reference was only applied to applicant’s AAPA’s base and heat sink assembly to show a screw can be used to attach a base or chassis to a heat sink.

### ***Conclusion***

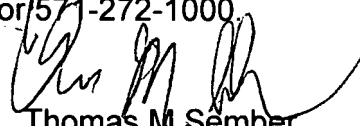
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M. Sember whose telephone number is 571-272-2381. The examiner can normally be reached on M-F 9 a.m.- 5.30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Jong Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thomas M. Sember  
Primary Examiner  
Art Unit 2885